

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A method of ~~reducing~~ determining the level of saturated fatty acids relative to the level of unsaturated fatty acids in bovine milk by:

(a) determining ~~which~~ the  $\beta$ -casein genotype of two or more cows of a herd produce milk containing  $\beta$ -casein having a proline at position 67, where the herd comprises cows that produce milk containing  $\beta$ -casein having a proline at position 67 and cows that produce milk  $\beta$ -casein having a histidine at position 67, by testing genetic material of ~~individual cows of the herd~~ each cow for the presence of DNA encoding  $\beta$ -casein having a proline residue at position 67 or DNA encoding  $\beta$ -casein having a histidine residue at position 67 ~~by testing milk produced by individual cows of the herd (or a product produced from that milk) for the presence of  $\beta$ -casein having a proline at position 67;~~

(b) ~~selecting~~ analyzing the genotype test results from step (a) to determine the proportion of cows that have DNA encoding  $\beta$ -casein having a proline residue at position 67 ~~or that produce milk containing~~ and the proportion of cows that have DNA

encoding  $\beta$ -casein having a ~~proline~~ histidine residue at position 67; and

(c) ~~milking the selected cows to give milk having a reduced~~ using the results of the analysis of step (b) to determine the level of saturated fatty acids relative to the level of unsaturated fatty acids ~~compared with milk obtained from the herd~~ in milk obtainable from the cows.

2. (currently amended) [[A]] The method as claimed in claim 1 ~~where,~~ wherein the ~~1-casein~~  $\beta$ -casein having a proline at position 67 includes one or more of  $\beta$ -caseins A2, A3, D, E and F.

3. (currently amended) [[A]] The method as claimed in claim 2 ~~where,~~ wherein the ~~f-casein~~  $\beta$ -casein having a proline at position 67 is ~~p-casein~~  $\beta$ -casein A2.

4. (currently amended) [[A]] The method as claimed in claim 1 ~~where,~~ wherein the  $\beta$ -casein having a histidine at position 67 includes one or more of ~~3-caseins~~  $\beta$ -caseins A1, B, and C.

5. (currently amended) [[A]] The method as claimed in claim 4 ~~where,~~ wherein, the ~~p-casein~~  $\beta$ -casein having a histidine at position 67 is  $\beta$ -casein A1.

6. (currently amended) [[A]] The method as claimed in claim 1 ~~where,~~ wherein the level of short and medium chain saturated fatty acids having 6 to 14 carbon atoms in each chain

(C6:0-C14:0) is reduced compared with milk ~~obtained~~ obtainable from all of the two or more cows ~~here~~.

7-8. (cancelled).

9. (currently amended) [[A]] The method as claimed in claim 1 ~~where~~, wherein the genetic material of the cows may be any tissue containing, or which contained, nucleated cells.

10. (currently amended) [[A]] The method as claimed in claim 9 ~~where~~, wherein the genetic material is obtained from blood, hair, or milk.

11-16. (cancelled)

17. (new) A method of obtaining bovine milk having a predetermined level of saturated fatty acids relative to the level of unsaturated fatty acids by:

(a) determining the  $\beta$ -casein genotype of cows by testing genetic material of each cow for the presence of DNA encoding  $\beta$ -casein having a proline residue at position 67 or DNA encoding  $\beta$ -casein having a histidine residue at position 67;

(b) determining the proportion of cows that have DNA encoding  $\beta$ -casein having a proline residue at position 67 and the proportion of cows that have DNA encoding  $\beta$ -casein having a histidine residue at position 67 that are required to provide the predetermined level of saturated fatty acids relative to the level of unsaturated fatty acids in milk obtained from the cows;

(c) using the genotype test results from step (a) to select cows to give the proportions of cows determined in step (b); and

(d) milking the selected cows to give milk having the predetermined level of saturated fatty acids relative to the level of unsaturated fatty acids.

18. (new) The method as claimed in claim 17, wherein the  $\beta$ -casein having a proline at position 67 includes one or more of  $\beta$ -caseins A2, A3, D, E and F.

19. (new) The method as claimed in claim 18, wherein the  $\beta$ -casein having a proline at position 67 is  $\beta$ -casein A2.

20. (new) The method as claimed in claim 17, wherein the  $\beta$ -casein having a histidine at position 67 includes one or more of  $\beta$ -caseins A1, B, and C.

21. (new) The method as claimed in claim 20, wherein the  $\beta$ -casein having a histidine at position 67 is  $\beta$ -casein A1.

22. (new) The method as claimed in claim 17, wherein the level of short and medium chain saturated fatty acids having 6 to 14 carbon atoms in each chain (C6:0-C14:0) is reduced compared with milk obtainable from both (i) cows that give milk having the predetermined level of saturated fatty acids relative to the level of unsaturated fatty acids and (ii) cows that do not give milk having the predetermined level of saturated fatty acids relative to the level of unsaturated fatty acids.

23. (new) The method as claimed in claim 17, wherein the genetic material of the cows may be any tissue containing, or which contained, nucleated cells.

24. (new) The method as claimed in claim 23, wherein the genetic material is obtained from blood, hair, or milk.